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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,235	09/19/2003	Taroh Terashi	2271/71043	8483

7590 02/22/2007

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EXAMINER	
MCNALLY, DANIEL	
ART UNIT	**PAPER NUMBER**
1733	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,235	TERASHI ET AL.	
	Examiner	Art Unit	
	Daniel McNally	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *5-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the Amendment entered in the Request for Continued Examination filed 11/20/2006.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, lines 4-5 the applicant recites, "light energy curable adhesives." It is unclear if "adhesives" refers to the multiple adhesive sections wherein all the sections are of a single type of adhesive, as discussed on page 10 of the specification with respect to the embodiment of Figure 1, or to the use of multiple different adhesives, as discussed on page 16 of the specification with respect to the embodiment of Figure 8. Based upon the previous actions on the merits of the instant application, it is assumed the applicant is claiming multiple adhesive sections wherein all the sections are of a single type of adhesive. In previous Office actions the cited references used a single type of adhesive and none of the corresponding responses from the applicant addressed the use of a single adhesive type. Therefore, because the record establishes a single adhesive type Claims 1 and 4 should be amended to replace "light energy curable adhesives," with –light energy curable adhesive--.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujioka et al. [US20030006004] (newly cited) in view of Yamaguchi et al. [US20020134515] (newly cited) and Holmes [US20040111913] (previously cited).

It is noted, for the purpose of examination the adhesive layer is assumed to be a single type of adhesive located at a plurality of locations, see paragraph 3 above.

Fujioka discloses a method of manufacturing an optical disk. The optical disk of Fujioka comprises a first and second substrate or "part and adhering target." The method of manufacturing comprises supplying the substrates, coating the substrates with a UV curable resin that is used to bond the substrates together, curing the UV curable resin by UV irradiating the resin (paragraphs 0018-0022). The method of UV curing the resin causes the optical disk to warp. It is inherent that when the optical disk is warped the substrates comprising the disk are relatively displaced. The method of manufacturing the optical disk also comprises measuring the warpage of the optical disk and adjusting the timing of the irradiation to suppress the warpage (paragraph 0042). Adjusting the timing of the irradiation will suppress warpage and inherently offset the stresses in the optical disk. Fujioka adjusts the timing of the irradiation by adjusting the timing of shutters. Fujioka discloses the final optical disk will be bonded with small warpage and high precision, therefore the first and second substrates will be located in their "prescribed positions." Fujioka discloses using a single adhesive in a continuous

layer and spin coating the adhesive onto one of the substrates. Fujioka does not disclose coating the adhesive in a plurality of separate locations. Fujioka discloses adjusting the irradiation time to account for the warpage, not adjusting the intensity of the irradiation to account for the warpage.

Yamaguchi discloses a method of manufacturing optical disks. The method comprises dispensing a liquid adhesive between two substrate disks. Yamaguchi teaches reducing the possibility of voids between the two substrates by decreasing the initial contact areas of adhesive between the two substrates (paragraph 0043). Yamaguchi further discloses dispensing the adhesive on one of the substrates in a discontinuous layer as separate adhesive dot regions arranged around the substrate as shown in Figure 5A (paragraph 0047). Yamaguchi also discloses the option of applying the adhesive to one or both of the substrates.

Holmes discloses a method of UV curing to achieve desired adhesion of the UV curable resin to a substrate and the desired shrinkage of the UV curable resin (paragraph 0003). Like Fujioka, Holmes also uses shutters to selectively control the UV energy. Holmes teaches controlling the radiation exposure by adjusting the exposure time and by adjusting the intensity of the radiation. Holmes establishes that both methods, exposure timing exposure intensity, are effective alternatives for controlling the irradiating process (paragraph 0029).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Fujioka by applying the adhesive in a discontinuous pattern of dots as taught by Yamaguchi in order to reduce the possibility of voids in the

adhesive layer, and substituting the method of controlling the irradiating process, by controlling the exposure timing, of Fujioka by adjusting the exposure intensity as taught by Holmes in order adjust the irradiation energy to correct the warpage while maintaining a constant processing time.

With regard to claim 2, it is inherent that by adjusting the irradiation energy to reduce the warpage, the change in irradiation energy will change the direction of the stresses in the optical disk. Fujioka discloses controlling the direction and amount of warpage (paragraph 0027).

With regard to claim 3, Fujioka discloses a warpage detector and a feedback mechanism (paragraphs 0027 and 0038). Fujioka as modified by Holmes adjusts the irradiation intensity to control the warpage in the optical disk.

Allowable Subject Matter

6. Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 4 requires selectively irradiating an area of adhesive. The prior art of record does not disclose selectively irradiating a particular area in order to control the shrinkage of the adhesive.

Fujioka discloses controlling the irradiating time to control the warpage.

Holmes discloses controlling the irradiating time and the intensity of the irradiation to control the shrinkage of the adhesive.

Response to Arguments

7. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel McNally whose telephone number is (571) 272-2685. The examiner can normally be reached on Monday - Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel McNally
Examiner
Art Unit 1733

dpm
February 14, 2007

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700